

CLAIMS

What is claimed is:

1. A protective device for an injection unit of an injection molding machine, comprising:
 - a protective plate disposed at an outlet port of a nozzle channel of an injection nozzle and moveable between a shielding position, in which the outlet port is covered, and an opening position, in which the outlet port is cleared; and
 - a mechanical switching mechanism, disposed outside the injection channel, for applying an adjusting force which acts between the protective plate and a molding tool, when the injection unit docks the molding tool.
2. The protective device of claim 1, and further comprising a carrier swingably mounted onto the injection unit for allowing attachment of the carrier in different rotary positions, wherein the protective plate and the switching mechanism are commonly arranged on the carrier.
3. The protective device of claim 1, wherein the switching mechanism includes a finger-shaped tracer which is moveable in linear direction in opposition to an advancement direction of the injection unit, when the tracer strikes against a touch surface of the molding tool as the injection unit docks the molding tool, wherein the touch surface is located outside a gate opening of the mold tool.

4. The protective device of claim 1, wherein the protective plate and the switching mechanism are constructed to spontaneously seek the shielding position.
5. The protective device of claim 4, wherein the switching mechanism is spring-biased for so loading the protective plate as to seek the shielding position.
6. The protective device of claim 4, and further comprising a weight member attached to the protective plate for urging the protective plate to seek the shielding position by gravitational force.
7. The protective device of claim 1, wherein the protective plate is configured in the form of a substantially circular arc defined by a circle center point and is swingably arranged on the injection unit for movement about the circle center point.
8. The protective device of claim 1, wherein the switching mechanism has an adjustable switch point.
9. The protective device of claim 1, and further comprising position sensors for monitoring a switched position of the protective plate.

10. An injection molding machine, comprising:
- a molding tool;
 - an injection unit having a plasticizing cylinder for producing a plastic melt, and a nozzle connected to the plasticizing cylinder and having a nozzle channel for expelling the plastic melt into a cavity of the molding tool; and
 - a protective device for guarding against splashing of plastic melt, said protective device including a protective plate disposed at an outlet port of the nozzle channel and moveable between a shielding position, in which the outlet port is covered, and an opening position, in which the outlet port is cleared, and a mechanical switching mechanism, disposed outside the nozzle channel and rendered operative to move the protective plate between the shielding and opening positions in response to a position of the injection unit relative to the molding tool.
11. The injection molding machine of claim 10, wherein the protective device includes a carrier swingably mounted onto the injection unit for allowing attachment of the carrier in different rotary positions, wherein the protective plate and the switching mechanism are commonly arranged on the carrier.

12. The injection molding machine of claim 10, wherein the switching mechanism includes a finger-shaped tracer which is moveable in linear direction in opposition to an advancement direction of the injection unit, when the tracer strikes against a confronting touch surface of the molding tool as the injection unit approaches the molding tool, wherein the touch surface is located outside a gate opening of the molding tool.
13. The injection molding machine of claim 10, wherein the switching mechanism is spring-biased for so loading the protective plate as to spontaneously seek the shielding position.
14. The injection molding machine of claim 10, wherein the protective device includes a weight member attached to the protective plate for urging the protective plate to seek the shielding position by gravitational force.
15. The injection molding machine of claim 10, wherein the protective plate is configured in the form of a substantially circular arc defined by a circle center point and is swingably arranged on the injection unit for movement about the circle center point.
16. The injection molding machine of claim 12, wherein the switching mechanism includes a pivot lever which operatively connects the tracer to the protective plate.

17. The injection molding machine of claim 16, wherein the pivot lever is operatively connected to the tracer via a slotted guide mechanism.
18. The injection molding machine of claim 17, wherein the switching mechanism includes a switch member movably arranged on the tracer to allow adjustment of an effective length of the tracer between a forward tracer end and the slotted guide mechanism.
19. The injection molding machine of claim 10, wherein the protection device includes position sensors for monitoring a switched position of the protective plate.